mittent, sometimes questionable medical care in nursing homes, homes for the aged and other like facilities. It has only been recently, as Comfort points out, and largely because of the influx of great numbers of geriatric patients, that the Veterans Administration has gotten involved in geriatric training and geriatric medicine. Here too, however, only a few pockets of such programs exist. Nationwide involvement is bogged down in the quagmire of government bureaucracy. Optimist that I am, however, "a bird in the hand, is worth two in the bush."

A prime reason for our relative lack of medical and scientific concern may well be the dearth of researchers, insightful medical school administrators and medical school students who are trained, want to be trained or even interested, for that matter, in the scientific study of all aspects—medical, clinical and biological—of geriatrics and gerontology. Certainly, we know the financial incentive is just not there.

The American Medical Association and medical schools across this country have a gleaming opportunity in the very palms of their hands—use it! Use that powerful lobby to bring forth needed funds for the development and implementation of geriatric medicine and gerontology training in our medical schools.

It is my deepest hope that the AMA, medical schools and continuing education programs for those in practice utilize the highly trained and skilled gerontologists in the development and implementation of programs dealing with geriatric medicine. Finally, in the allocation of research funds and grants priority should be given to those schools and programs that have geriatric health care and geriatric medicine, developed by qualified gerontologists, included in their curriculum and research projects.

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Thoracic Outlet Syndrome

TO THE EDITOR: The article "Thoracic Outlet Syndrome" by Ward W. Woods, MD in the January 1978 issue deserves several comments.

First, I agree, and it is generally recognized, that thoracic outlet syndrome (TOS) may follow a cervical soft tissue injury.

Second, the mechanism involves the initial injury to the anterior cervical muscles with attendant edema and spasm and then shortening and fibrosis of those muscles. The brachial plexus and subclavian vessels are irritated and compressed in the interscalene triangle and costoclavicular space. Prolonged immobilization, that is, greater than 2 to 3 weeks in a cervical collar, in a mild to moderate cervical soft tissue injury is a major contributing factor to the development of TOS. Early treatment includes appropriate use of a cervical collar, physical modalities, muscle strengthening exercises, gentle range of motion exercises, relief of myofascial trigger zones[1] and the use of a unique pillow that provides not only proper head, neck and shoulder girdle alignment but also gentle stretch (when desired) of the anterior cervical muscles.[2] These measures should prevent the syndrome from developing except in a very small percentage of patients. Therefore, a 23 percent incidence is somewhat tragic. Dr. Woods points out an average of a 14-month time lapse between the original injury and his first examination. Obviously, Dr. Woods is not involved in the early care of these patients and is not responsible for the apparent physical mismanagement of these soft tissue cervical injuries.

Third, Dr. Woods reaches the diagnosis of TOS on the basis of 20 signs and symptoms and acknowledges that some of the 20 are due to a vertebrobasilar artery syndrome. I was not aware that vertebrobasilar artery symptoms and signs could be considered to be part of the TOS and, therefore, Dr. Woods' apparently high incidence of 23 percent might be explained not only by early mismanagement but, also, by a unique expansion of the usual diagnostic criteria of TOS. Furthermore, some of the 20 signs and symptoms could be explained by myofascial trigger areas in the sternomastoid muscle[3] (postural dizziness and blurred vision), trapezius muscle[3] (retro-orbital pain), scaleni[4] (anterior and posterior chest pain). Discharges from trigger areas may also be accompanied by vasoconstriction and other autonomic effects in the reference zone of pain.

Fourth, Dr. Woods' preoperative treatment in the 459 TOS cases may have been too little and too late, especially if treatment of myofascial trigger zones and cervical joint mobilization techniques were not utilized.

The fifth and final point relates to Dr. Woods' operative procedure of transection of the anterior

scalene muscle and periarterial stripping and lysis of the brachial plexus. Dr. Woods indicates that excision of the first rib is rarely necessary. The surgical treatment of TOS seems to keep changing. In the past, scalenotomy was replaced by first rib resection. Roeder and co-workers[5] indicated that "based upon the work of many authors, it is now apparent that first rib resection is the preferable mode of operative decompression of the thoracic outlet" and "the first rib is the common denominator to all forms of thoracic outlet compression." More recently, there is a trend back to scalenotomy for TOS. One wonders if the choice of procedure should, perhaps, depend on the cause of the TOS.

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Outpatient Self-Administration of Parenteral Antibiotics

TO THE EDITOR: Dr. Antoniskis' timely report (Antoniskis A, Anderson BC, Van Volkinburg EJ, et al: Feasibility of outpatient self-administration of parenteral antibiotics. West J Med 128: 203-206, Mar 1978) about the feasibility of outpatient self-administration of parenteral antibiotics emphasized a safe and effective modality of treatment helpful to slow the rapid rise of health care expenditures. I hope that reviews such as this will be funded generously, to supply further proof that some procedures can be performed safely outside the expensive (hospital) setting.

TABLE 1.—*Several Intravascular Procedures That Have Been Done in Patients' Homes*

Intravascular Procedures	*Hospital*		*Physician's Office*	*Patient's Home*		
	Inpatient	*Outpatient*		*Trained*		
				Nurse	*Helper*	*Patient*
Antibiotics	+	+	+			
Blood	+	+	+			
Chemotherapy	+	+	+			
Arteriovenous access						
Antibiotics	+	+	+	+	+	+
Blood	+	+	+	+	+	+
Deferoxamine	+	+			+	+
Hemodialysis	+	+	−	+	+	+
Hyperalimentation	+	+	−	+	+	+
Iron	+	+		+	+	+

Table 1 lists several intravascular procedures that have been done in patients' homes. Some, such as the administration of blood, have run into considerable opposition, motivated by the fear of legal problems. Others, such as dialysis at home, have shifted to outpatient "limited care" clinics, although patients dialyzing at home fare better, with a higher degree of rehabilitation and employment, at a considerably lower cost.

The question arises whether an insurance carrier must pay for the hospital admission of a patient for procedures that can be safely done on an outpatient basis or in a patient's home. Several carriers insist that the last hemodialysis before the kidney recovers enough function to not require further treatment (in the treatment of acute renal failure) be done while the patient is confined in the hospital, even though some stable patients can be cared for in their homes between dialyses and could receive dialyses on an outpatient basis.

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